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EXAMINER	
BROOKMAN, STEPHEN A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,242	PADAN, NIR	
	Examiner	Art Unit	
	Stephen Brookman	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *11,18-21 and 34-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-17,22-33 and 37-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 December 2008* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 120. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 37 and 38 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The attachment of the extendible arm to a fuzing device and the structure or steps required for extracting a previously used arming cable,

critical or essential to the practice of the invention, but not included in the claim(s) are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). There is nothing in the disclosure that enables attaching the arm to a fuzing device or extracting a previously used arming cable.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3, 14-17, and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the second first airborne aerial vehicle" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 14, it is not clear how the end of the extendible arm assembly (i.e., as claimed, the innermost telescopic tube) is linked to an arm assembly. It is unclear in that it appears that the arm assembly referred to is the extendible arm, which means that the claim is that the extendible arm is linked to itself. The term "arm assembly" is vague, rendering the claim indefinite. For the purpose of examination, the examiner has interpreted this "arm assembly" to be any additional arm-like apparatus at the end of the telescopic tube.

Regarding Claim 16, it is unclear how the arm assembly comprises a transferable ordnance assembly connected to the second end of the arm assembly wherein the transferable ordnance assembly comprises an ordnance carrier cradle equipped with gripping arms to secure a transferable ordnance assembly to the ordnance carriage cradle. It is unclear how a transferable ordnance assembly can comprise a cradle to secure itself to the same cradle, which appears to be part of itself, as claimed. For the purpose of examination, the examiner has interpreted the "transferable ordnance assembly" in line 4 to be an ordnance unit, and in lines 2-3 to be an "ordnance transfer assembly."

Claim 38 is rendered indefinite as it is not clear what structure or method steps are involved in extracting a previously used arming cable.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5, 7, 22, 25, 28-33, 39 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Minovitch (U.S. Patent 5,103,712).

With regard to Claim 1, Minovitch teaches an apparatus for the air-to-air transfer of at least one ordnance unit (i.e., ammunition) from a first airborne aerial vehicle to a second airborne aerial vehicle, the apparatus comprising:

- Pylon installed on the second airborne aerial vehicle and intended to receive the at least one ordnance unit transferred from the first airborne aerial vehicle to the second airborne aerial vehicle (i.e. magazine 76, acting as a pylon/receiving apparatus, which stores the ordnance unit after transfer, or receptacle 60, accepting the apparatus)
- An ordnance transfer assembly providing for the carriage of the at least one ordnance unit on a rigid surface (i.e., the conveyor 10 is part of the transfer assembly, providing for the carriage of the ordnance unit, and the ordnance unit is on a rigid surface, as it is enclosed in a rigid tube, column 1, line 36, as well as the fact that the conveyor internal belt 14 is on rollers 42, which are also rigid surfaces) from the first airborne aerial vehicle to the second airborne aerial vehicle
- A power generator device to provide power for the movement of the ordnance transfer assembly (i.e., rotating driveshafts 48 are inherently driven by a power generator device)

With regard to Claim 41, Minovitch teaches the ordnance transfer assembly further comprising an extendible arm assembly (i.e., the conveyor 10 is an extendible arm assembly as seen in Figures 1 and 3) attached to the first

airborne aerial vehicle, the arm first end is attached to the body of the first airborne aerial vehicle, the arm second end inherently provided with freedom of movement (assisted by control surfaces 54).

With regard to Claim 2, Minovitch teaches the apparatus further comprising an ordnance transfer control assembly providing for the control of the arm and the ordnance transfer assembly to enable controlling the movement of the extended arm in a bi-directional, multi-axis movement (i.e., an operator positioned in 56 maneuvers the conveyor 10 via the aerodynamic control surfaces 54, inherently via a control assembly, causing bi-directional, multi-axis movement).

Regarding Claim 3, the apparatus of Minovitch comprises an at least one disposed storage cradle to hold the at least one ordnance unit during transfer from the first airborne aerial vehicle to the second first airborne aerial vehicle (i.e. the ordnance storage rack / storage magazine 66 inherently functions as a storage cradle to hold the ordnance unit/ammunition 12/64, and the language "during transfer" is deemed to mean the time between the loading of the first aircraft 58 to the reception by the second aircraft, the entire process fully inclusive of the time spanning takeoff of the first vehicle to reception by the second vehicle, alternatively, the conveyor belt 14 is a disposed storage cradle holding the unit during transfer).

With regard to Claim 4, the ordnance unit is an aerial bomb device intended to be ejected from the second aerial vehicle toward a target (i.e., ammunition 64 is inherently functional as a bomb to be ejected from the second aerial vehicle toward a target).

With regard to Claim 5, the ordnance unit is a missile device to be launched from the second aerial vehicle toward a target (i.e., ammunition 64 is to be fired/launched from the second aerial vehicle gun toward a target, or self-propelled missiles, column 4, line 5).

With regard to Claim 7, the extendible arm assembly further comprises a foldable aerodynamic control surface assembly to provide for aerodynamic lift and control to the extendible arm (i.e., wings 52 have movable aerodynamic control surfaces 54, inherently foldable to some degree, to provide for aerodynamic lift and control to the extendible arm, column 3, lines 12-19).

With regard to Claim 22, the first airborne aerial vehicle is a manned cargo aircraft (i.e., an operator is in the supply aircraft, column 3, lines 15-16).

With regard to Claim 25, the second airborne aerial vehicle is a manned aircraft (i.e., Fairchild Republic A-10).

With regard to Claim 28, the apparatus of Minovitch inherently performs the method for the air to air transfer of at least one ordnance unit (live ammunition 12) from a first airborne aerial vehicle to a second airborne aerial vehicle, the method comprising:

- loading the at least one ordnance unit into an ordnance storage rack installed within an internal cargo space of the first airborne aerial vehicle (i.e., the live ammunition 12 is inherently preloaded into a storage rack/magazine 66 installed within supply aircraft 58);
- transferring the at least one ordnance unit from the ordnance storage rack installed within the cargo space of the first airborne aerial vehicle into an ordnance carriage cradle associated with a manipulable, extendible arm (i.e., tubular conveyor 68 functions as an ordnance carriage cradle within flying conveyor/arm 10, which is extendible from supply aircraft 58 as seen in Figure 3, and is manipulable via control surfaces 54) secured at a first end to the first airborne aerial vehicle while a second end is provided with a freedom of movement to enable bi-directional movement of the second end between the first airborne aerial vehicle and the second airborne aerial vehicle (i.e., the control surfaces 54 enable bi-directional movement of the far end of the arm 10, which has freedom of movement), wherein the at least one ordnance unit is transferred externally to the extendible arm (i.e., the ordnance unit is moved from a location outside of the first aircraft 58 into the first aircraft 58 and then into the extendible arm 10,

thereby making the ordnance unit transferred externally to the extendible arm);

- manipulating the extendible arm to provide for the bi-directional movement of the arm between the first airborne aerial vehicle and the second airborne aerial vehicle (i.e., the control surfaces 54 manipulate the extendible arm and the associated tubular conveyor 68 within, inherently providing for bi-directional/multi-directional movement of the arm between the two vehicles).

With regard to Claim 29, the apparatus of Minovitch inherently establishes contact between the at least one ordnance unit (12) and the second airborne aerial vehicle (62) and attaches the at least one ordnance unit to the pylon of the second airborne aerial vehicle (i.e., magazine 76, functioning as a pylon, receives the ordnance unit/ammunition 12).

With regard to Claim 30, the apparatus of Minovitch establishes contact between the second end of the arm and the second airborne aerial vehicle via the manipulation of the arm (i.e., control surfaces 54 on wings 52 are operated to guide the far end of the arm to receptacle 60 on aircraft 62, column 3, lines 12-26, Figure 3).

With regard to Claim 31, the apparatus of Minovitch uploads the ordnance unit on an internal weapon station on the second airborne aerial vehicle (i.e., ammunition 12/64 is loaded into magazine 76 in preparation for being fired by gun 78, column 3, lines 44-54).

With regard to Claim 32, the apparatus of Minovitch inherently disconnects the second end of the arm from the at least one ordnance unit (i.e., the second end of the arm of Minovitch is inherently disconnected from the ordnance unit 12/64 when the ordnance unit leaves the conveyor 10). The ordnance unit is stabilized to the pylon (i.e., the ammunition 12/64 is secured within the magazine 76). The ordnance unit is fused (i.e., ammunition 12/64 of Minovitch is inherently fused to be fired from gun 78).

With regard to Claim 33, the manipulable extendable arm is inherently retracted at the completion of the ordnance transfer procedure into the internal cargo space of the first airborne aerial vehicle (i.e., the flying conveyor 10 is extended or retracted longitudinally via driving gears 70 and small rails 72, Figures 4,4A, inside the supply aircraft 58, column 3, lines 39-44).

With regard to Claim 39, the apparatus of Minovitch inherently is retrieved at the end of the transfer, therefore the apparatus is capable of the step of aborting the ordnance transfer comprising the retrieval of the extendible arm.

8. Claim 1, 3-5, 13, 28-33, and 37-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberge (U.S. Patent 3,167,278).

With regard to Claim 1, Roberge teaches an apparatus for the air-to-air transfer of at least one ordnance unit from a first airborne aerial vehicle to a second airborne aerial vehicle, the apparatus comprising:

- Pylon installed on the second airborne aerial vehicle and intended to receive the at least one ordnance unit transferred from the first airborne aerial vehicle to the second airborne aerial vehicle (i.e., probe element 44)
- An ordnance transfer assembly providing for the carriage of the at least one ordnance unit on a rigid surface from the first airborne aerial vehicle to the second airborne aerial vehicle (i.e., cable 16 is part of the overall ordnance transfer assembly and is unwound via winch 18 to carry the ordnance unit 38 in ordnance assembly 14 to the receiving aircraft 12, wherein the rigid surface is the ordnance release mechanism 36 in Figure 8 or the hard surfaces inside pod 68, which carries the ordnance unit)
- A power generator device to provide power for the movement of the ordnance transfer assembly (i.e., the winch 18 is inherently provided with power by a power generator device)

With regard to Claim 41, the ordnance transfer assembly further comprises an extendible arm assembly (i.e., the cable 16 *is* an extendible arm assembly which

is part of the ordnance transfer assembly) attached to the first airborne aerial vehicle, the arm first end is attached to the body of the first airborne aerial vehicle, the arm second end provided with freedom of movement.

With regard to Claim 3, Roberge teaches a set of tubes for holding multiple ordnance units (Figure 10), which is disclosed as being held on the end of the cable 16, prior to transfer. Therefore, Roberge teaches the apparatus of Claim 1 further comprising an at least one disposed storage cradle (i.e., other tubes of assembly/multi-rocket pod 68) to hold the ordnance units during transfer from the first airborne aerial vehicle to the second airborne aerial vehicle.

With regard to Claims 4 and 5, the at least one ordnance unit is an aerial bomb device and a missile device (i.e., rockets as seen in Figure 11).

With regard to Claim 13, Roberge teaches the apparatus of Claim 1 as rejected above wherein the ordnance transfer assembly comprises:

- An ordnance carriage cradle for an in-transfer storage of the ordnance unit (i.e., the multi-rocket pod 68 carries a rocket or the ordnance unit 38 is carried by a cradle in assembly 14 as seen in Figure 8), the ordnance carriage cradle comprising:

- At least two ordnance gripping arms (i.e., the ordnance release mechanism 36 in Figure 8 has two arms seen holding the ordnance unit 38)
- A pylon adapter to carry the at least one ordnance unit during an air-to-air ordnance transfer (i.e., the carrier tube 28 connects to the pylon and is part of the ordnance assembly 14), the pylon adapter comprising
    - A mechanical connector to the pylon (i.e., the carrier tube 28 receives the pylon 44 via drag cone 31)
    - At least one stabilizing surface to be used for stabilizing the pylon adapter to the pylon (i.e., drag cone 31)
- A multi-fuzing unit to enable fuzing of the at least one transferred ordnance unit (i.e., electrical cable 50 provides control of the release mechanism 36, the connection/fuzing occurring during connection between probe and ordnance assembly, acting as a fuzing of the ordnance unit, column 2, lines 56 to column 3, line 6)

With regard to Claim 28, the apparatus of Roberge inherently performs the method for the air to air transfer of at least one ordnance unit (rocket) from a first airborne aerial vehicle to a second airborne aerial vehicle, the method comprising:

- loading the at least one ordnance unit into an ordnance storage rack installed within an internal cargo space of the first airborne aerial vehicle

(i.e., rockets are inherently loaded into the aircraft and placed within the storage cargo area, inherently on a rack);

- transferring the at least one ordnance unit from the ordnance storage rack installed within the cargo space of the first airborne aerial vehicle into an ordnance carriage cradle associated with a manipulable, extendible arm (i.e., the ordnance unit/rocket is loaded onto end of cable 16, which is a manipulable and extendible arm at end of boom 22, which is also an arm, using carrier tube 28 as seen in Figure 8) secured at a first end to the body of the first airborne aerial vehicle while a second end is provided with a freedom of movement to enable bi-directional movement of the second end between the first airborne aerial vehicle and the second airborne aerial vehicle (i.e., the cable 16 is reeled in and out by winch 18), wherein the at least one ordnance unit is transferred externally to the extendible arm (i.e., as seen in the Figures, the ordnance unit is not inside either the cable 16 or the boom 22, both of which are extendible arms)
- manipulating the extendible arm to provide for the bi-directional movement of the arm between the first airborne aerial vehicle and the second airborne aerial vehicle (i.e., the cable 16 is reeled out and the conveyor mechanism/cradle/carrier tube 28 are manipulated by winch 18, inherently bi-directionally between the two aircraft).

With regard to Claim 29, the apparatus of Roberge makes contact between the ordnance unit and the second airborne aerial vehicle via the carrier tube (28) and probe (44) and attaches the ordnance unit to the pylon/probe (44) of the second/receiving aerial vehicle.

With regard to Claim 30, the contact is established via manipulation of the arm (i.e., the cable 16 is reeled in and out).

With regard to Claim 31, the ordnance unit is uploaded onto an external weapon station on the second airborne aerial vehicle (Figures 1 and 6).

With regard to Claim 32, the second end of the arm/cable 16 is disconnected from the ordnance unit, the ordnance unit is stabilized to the pylon (44, via tube 28) and the ordnance unit is fuzed (i.e., electrical cable 50 provides control of the release mechanism 36, the connection/fuzing occurring during connection between probe and ordnance assembly, acting as a fuzing of the ordnance unit, column 2, lines 56 to column 3, line 6).

With regard to Claim 33, the arm/cable (16) is retracted at the completion of the process into the internal cargo space of the first airborne aerial vehicle.

Regarding Claim 37, Roberge teaches transferring the ordnance unit in a fuzed state (i.e., a fuze is inherently attached or internal to the missile 38) with an arming cable (40) where the first end of the extendible arm (16) is attached to the fuzing device (i.e., the inherent fuze of the missile).

Regarding Claim 38, a previously used arming cable is extracted from the pylon when the missile and separating device (34) are jettisoned. The second end of the arm is attached to the pylon (Figure 8, showing the second end of 16 attached to 44).

With regard to Claim 39, aborting the ordnance transfer (i.e., ending) comprises retrieval of the arm (i.e., cable 16 can inherently be wound back into the aircraft at any time).

With regard to Claim 40, aborting the ordnance transfer (i.e., after the completion of the transfer) comprises jettisoning of the ordnance carriage cradle (i.e., rockets 80 assist in separation of assembly 66 to separate/jettison from the probe element 44, column 3, lines 57-59).

9. Claims 1-5, 12, 28-33, and 39-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Inatomi (JP 01254494 A).

Regarding Claim 1, Inatomi teaches an apparatus for the air-to-air transfer of at least one ordnance unit (i.e., the missile 5 seen in Figure 1B) from a first airborne

aerial vehicle (1) to a second airborne aerial vehicle (2), the apparatus comprising:

- Pylon installed on the second airborne aerial vehicle and intended to receive the at least one ordnance unit transferred from the first airborne aerial vehicle to the second airborne aerial vehicle (i.e., the aircraft 2 inherently has a pylon for receiving the ordnance unit 5 transferred as seen in Figures 1 and 2, and this pylon is referenced within the supplied translation on page 5, line 7 as an engine mount, but it is deemed to be for ordnance as in the Figures)
- An ordnance transfer assembly (generally indicated by 4, which represents the arm and supporting equipment and attachments for the arm) providing for the carriage of the at least one ordnance unit on a rigid surface from the first airborne aerial vehicle to the second airborne aerial vehicle (i.e., the missile/ordnance 5 is held on a rigid surface in Figure 1B)
- A power generator device to provide power for the movement of the ordnance transfer assembly (i.e., the arm 4 and supporting equipment is inherently powered by a power generator device)

Regarding Claim 41, the ordnance transfer assembly further comprises an extendible arm assembly (4) attached to the first airborne aerial vehicle, the arm first end is attached to the body of the first airborne aerial vehicle, the arm second end provided with freedom of movement (as seen in Figure 1B and

described throughout the specification, as the arm is moved to the second vehicle).

Regarding Claim 2, the apparatus of Inatomi inherently has an ordnance transfer control assembly providing for control of the arm and the ordnance transfer assembly to enable controlling the movement of the extended arm in a bi-directional, multi-axis movement (as seen in the Figures, the arm 4 is moved and therefore is moved by a control device or assembly).

Regarding Claim 3, the apparatus of Inatomi further comprises at least one disposed storage cradle (as seen in Figure 1C, the missile 5 is held onto the arm 4 inherently by a mount or attachment point, which is deemed to be a disposed storage cradle) to hold the at least one ordnance unit during transfer from the first airborne aerial vehicle to the second airborne aerial vehicle (as seen in the Figures, the cradle/attachment point holds the missile 5 during transfer).

Regarding Claim 4, the ordnance unit is an aerial bomb device intended to be released from the second aerial vehicle toward a target (i.e., it is a missile, which is deemed to be a bomb, and inherently intended to be released toward a target, also as described in the translated specification on page 5, lines 9-17).

Regarding Claim 5, the ordnance unit is a missile (5) to be launched from the second aerial vehicle toward a target (as missiles are used).

Regarding Claim 12, Inatomi teaches the extendible arm assembly (4) having at least two interlinked arm sections (seen in Figures 1 and 2) coupled together by at least one motorized joint (i.e. the segments of foldable arm 4 move with respect to each other and are therefore motorized).

Regarding Claim 28, the apparatus of Inatomi inherently performs the method for the air to air transfer of at least one ordnance unit (missile 5) from a first airborne aerial vehicle to a second airborne aerial vehicle, the method comprising:

- loading the at least one ordnance unit into an ordnance storage rack installed within an internal cargo space of the first airborne aerial vehicle (i.e., rockets are inherently loaded into the aircraft and placed within the storage cargo area, inherently on a rack of some sort);
- transferring the at least one ordnance unit from the ordnance storage rack installed within the cargo space of the first airborne aerial vehicle into an ordnance carriage cradle associated with a manipulable, extendible arm (i.e., the ordnance unit/missile is loaded onto end of arm 4, which is a manipulable and extendible arm and has a mounting point at its free end as seen in Figure 2C deemed to be an ordnance carriage cradle) secured at a first end to the body of the first airborne aerial vehicle (Figure 1B)

while a second end is provided with a freedom of movement to enable bi-directional movement of the second end between the first airborne aerial vehicle and the second airborne aerial vehicle (i.e. the arm 4 is moved as seen in Figures 1 and 2), wherein the at least one ordnance unit is transferred externally to the extendible arm (i.e., as seen in the Figures, the ordnance unit is not inside the arm)

- manipulating the extendible arm to provide for the bi-directional movement of the arm between the first airborne aerial vehicle and the second airborne aerial vehicle (i.e., the arm 4 is moved bi-directionally between the two vehicles).

Regarding Claim 29, Inatomi teaches establishing contact between the ordnance unit and the second airborne aerial vehicle (Figure 2C) and attaching the ordnance unit to a pylon of the second airborne aerial vehicle (Figure 2C and pages 4-5 of the provided translation).

Regarding Claim 30, Inatomi teaches establishing contact between the second end of the arm and the second airborne aerial vehicle via the manipulation of the arm (as in Figure 2C, wherein the contact is made via the ordnance/cargo 5).

Regarding Claim 31, the ordnance unit is uploaded on an external weapon station on the second airborne aerial vehicle (Figure 2C).

Regarding Claim 32, Inatomi teaches disconnecting the second end of the arm from the ordnance unit. The ordnance unit is inherently stabilized to the pylon (Figure 2C), and the ordnance unit is inherently fuzed (as it is shown being fired/launched in Figure 4).

Regarding Claim 33, the arm is retracted into the cargo space of the first airborne aerial vehicle at the completion of the transfer (as seen in Figure 3, the second aircraft is leaving the first aircraft and the arm has been stowed away for later use).

Regarding Claim 39, aborting (i.e., ending the transfer) comprises retrieval of the extendible arm (i.e., at the end of the transfer the arm is retrieved as in Figure 3, wherein it has been stowed away, and inherently the process can be stopped at anytime to and the missile 5 brought back into aircraft 1).

Regarding Claim 40, aborting (i.e., ending) the transfer comprises jettisoning the ordnance (i.e., the ordnance is released from aircraft 2 to be launched).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minovitch (U.S. Patent 5,103,712) in view of von Thal et al. (U.S. Patent 6,651,933).

With regard to Claim 6, Minovitch teaches the apparatus of Claim 2 as rejected above but does not expressly disclose the ordnance transfer control assembly comprising a computer device having a memory device to hold software programs associated with the control of the movement of the extendible arm, a communication device to transfer bi-direction control data, command data, and positional information between the first aerial vehicle and the extendible arm, thereby enabling control for an air-to-air transfer of the at least one ordnance unit from the first aerial vehicle to the second aerial vehicle.

However, von Thal et al. teach an aircraft refueling boom system that uses a computer device (112), inherently having a memory device to hold software programs associated with the control of the movement of the extendible boom (i.e., software as in column 8, line 1, wherein coordinate data for movement is

created from images), a communication device inherently transferring bi-directional control data, command data, and positional information between the first aerial vehicle and the extendible arm (i.e., the refueling control station 114, controlled by computer 112 as described above, is in communication with valves to control hydraulic flow to control surfaces 122 to inherently provide bi-directional control for extending, moving, and retracting the boom 14, Figure 5, and column 7, lines 19-33, communication data being provided between the computer 112 and the arm), thereby enabling control for an air-to-air transfer of fuel from the first aerial vehicle to the second aerial vehicle.
Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the computer and communication device of von Thal et al., for the purpose of accurately controlling the arm, as taught by von Thal et al., in the invention of Minovitch, in order to achieve the predictable result of precisely locating and safely orienting the transferring device prior to initiating the transfer.

With regard to Claim 8, Minovitch does not expressly disclose the extendible arm assembly further comprising an image acquiring device to provide the arm position-specific images to the ordnance transfer control assembly. However, von Thal et al. teach the extendible arm assembly/refueling boom (14) further comprising an image acquiring device (i.e. camera 110) for the purpose of providing the arm position-specific images to the ordnance transfer control

assembly (i.e., the cameras provide the computer 112 with visual targeting as described throughout the von Thal et al. specification). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include cameras, as taught by von Thal et al., in the invention of Minovitch, for the purpose of achieving the predictable result of providing accurate targeting sight ability and images for computer analysis for guiding the arm.

With regard to Claim 9, Minovitch does not expressly disclose the apparatus further comprising at least one lighting device. However, von Thal et al. teach the use of LEDs for lighting the targeting sights of the extendible boom to differentiate the targeting sights from other lights (i.e., the LEDs differentiate the targeting sights from other lights which cause reduced quality lighting conditions, column 4, lines 42-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include the LEDs of von Thal et al. in the invention of Minovitch for the predictable purpose of assisting the operator or computer in visualizing the target sight under reduced quality lighting conditions (i.e. distracting light conditions).

Alternatively, with regard to Claim 9, and further with regard to Claim 10, Minovitch does not expressly disclose the apparatus further comprising an at least one night-vision device or lighting device to provide enhanced quality mechanical arm position-specific images during day and nighttime ordnance

transfer. However, von Thal et al. teach cameras capable of operation from visible light to infrared (IR) light, as well as lighting devices (i.e., infrared/IR floodlights, column 5, lines 23-30) for the purpose of day and night lighting conditions (i.e., the cameras detecting IR light function as night-vision devices, column 5, lines 23-31, and the IR floodlights described serve as lighting devices). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the IR-capable cameras and the accompanying IR floodlights, as taught by von Thal, in the invention of Minovitch, for the predictable purpose of providing night-vision capability for use during nighttime transfers.

13. Claims 12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minovitch (U.S. Patent 5,103,712) in view of Rodriguez (U.S. Patent 5,243,896).

With regard to Claim 12, Minovitch teaches the apparatus of claim 41 but does not expressly disclose the extendible arm assembly comprising at least two interlinked arm sections coupled together by at least one motorized joint to provide for the movement of the interlinked arm sections in respect to each other. However, Rodriguez teaches a logistical support apparatus for weapons vehicles capable of use in aircraft in which a motorized telescoping and articulated boom is used to convey ammunition or fuel from a supply vehicle to a receiving vehicle, for the purpose of field reloading and refueling under operating conditions. Rodriguez teaches the extendible arm assembly/boom (18) comprising two interlinked arm sections coupled together by a motorized joint to provide for

movement of the interlinked arm sections in respect to each other (i.e., the telescoping sections 18a and 18b are interlinked arm sections coupled together by actuators/motorized joints 70, as seen in Figure 5) for the purpose of a retractable boom assembly with adjustable length. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the telescoping interlinked arm sections coupled together by a motorized joint, as taught by Rodriguez, in the invention of Minovitch, in order to achieve the predictable result of further control of the length and position of the boom for precise positioning before ammunition transfer.

With regard to Claim 14, Minovitch does not teach the extendible arm assembly being an extendible telescopic probe assembly comprising at least two telescopic tubes with the base of the extendible arm assembly attached to the first aerial vehicle and the innermost telescopic tube linked to an arm assembly. However, Rodriguez teaches a logistical support apparatus for weapons vehicles capable of use in aircraft in which a motorized telescoping and articulated boom is used to convey ammunition or fuel from a supply vehicle to a receiving vehicle, for the purpose of field reloading and refueling under operating conditions. Rodriguez teaches the extendible arm assembly/boom (18) comprising two telescopic tubes (18a and 18b) with the base of the assembly attached to the first/supply vehicle and the innermost telescopic tube linked to an arm assembly (i.e., linked to transition boom section 26, serving as an arm) for the purpose of a retractable

boom assembly with adjustable length. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the telescopic probe assembly taught by Rodriguez, in the invention of Minovitch, in order to achieve the predictable result of further control of the length and position of the boom for precise positioning before ammunition transfer.

With regard to Claim 15, the arm assembly of Rodriguez (i.e., telescoping arm assembly of the extendible arm assembly) comprises two interlinked mechanized arm sections (18a and 18b) joined by motorized links (actuators 70) and providing movement of the mechanized arm sections in respect of each other.

With regard to Claim 16, the arm assembly of Minovitch comprises a transferable ordnance assembly connected to the second end of the arm assembly, the transferable ordnance assembly comprising an ordnance carrier cradle equipped with gripping arms to secure a transferable ordnance assembly to the ordnance carriage cradle (i.e., the booms/arms have a conveyor/moving belt 14 acting as a transferable ordnance assembly/ordnance transfer assembly, connected to the second end of the arm assembly, the transferable ordnance assembly comprising an ordnance carrier cradle equipped with gripping arms—i.e. the moving belt 14 of Minovitch is supported/gripped by guide tracks 32 and rollers 42, the guide tracks necessarily functioning as gripping arms, Figures 2 and 2A).

With regard to Claim 17, the transferable ordnance assembly of Minovitch comprises a pylon adapter unit (i.e., coupling system 61) carried by the ordnance carriage cradle (i.e., at the end of the ordnance carriage cradle/tubular conveyor 68), the pylon adapter unit to carry an at least one ordnance unit (i.e., the ammunition passes through coupling system 61) and to be attached to a pylon uploaded on a weapon station on the second airborne aerial vehicle (i.e., the ammunition is passed into weapons station/magazine 76 in the receiving aircraft 62).

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minovitch (U.S. Patent 5,103,712) in view of Czajkowski et al. (U.S. Patent 3,768,415).

With regard to Claim 13, Minovitch teaches the apparatus of Claim 1 as rejected above wherein the ordnance transfer assembly comprises:

- An ordnance carriage cradle for an in-transfer storage of the ordnance unit (i.e., the tubular conveyor 68 cradles the ordnance), the ordnance carriage cradle comprising:
- At least two ordnance gripping arms (i.e., the tubular conveyor wraps around the ammunition and is supported/gripped by guide tracks 32 and rollers 42, the guide tracks supporting the ordnance through the conveyor and necessarily functioning as gripping arms, Figures 2 and 2A)
- A pylon adapter to carry the at least one ordnance unit during an air-to-air ordnance transfer (i.e., the coupling system 61 connects to the receptacle 60 which feeds to the magazine/pylon 76), the pylon adapter comprising

- A mechanical connector to the pylon (i.e., the conveyor 74 connects the coupling system 61 and receptacle 60 to the magazine/pylon 76)
- At least one stabilizing surface to be used for stabilizing the pylon adapter to the pylon (i.e., the connection is made between the coupling system 61 and the conveyor 74 at receptacle/stabilizing surface 60)

However, while Minovitch does not expressly disclose the ordnance transfer assembly including a multi-fuzing unit to enable fuzing of the at least one transferred ordnance unit, he does disclose the use of the apparatus as a transport for missiles, which would use a fuzing unit. Fuze devices were old and well known at the time of the invention, such as that of Czajkowski et al., which is a fuze arming device to be attached to bombs and ordnance. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to further include a fuzing device in the ordnance transfer assembly of Minovitch to fuze the ordnance, as taught by Czajkowski et al., prior to being released from the receiving vehicle during combat or exercises.

15. Claims 23, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minovitch (U.S. Patent 5,103,712).

With regard to Claim 23, Minovitch teaches the apparatus of claim 22 as rejected above but does not expressly disclose the first airborne aerial vehicle being a Lockheed Martin C-130 Hercules. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to use any cargo aircraft, and the examiner takes Official Notice that the Lockheed Martin C-130 would have been a well-known and commonly understood predictable choice for a capable cargo aircraft.

With regard to Claims 24 and 26, Minovitch does not teach the first or second airborne aerial vehicle being an unmanned or uninhabited aircraft. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to try the invention in any aircraft or airborne vehicle, as the examiner takes Official Notice that unmanned/uninhabited vehicles and aircraft were old and well known at the time of the invention, with the predictable capability of remotely controlling all aircraft activities.

16. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minovitch (U.S. Patent 5,103,712) in view of Lounge et al. (U.S. Patent Application Publication 2002/0079407).

Minovitch does not expressly disclose using the reloading system/apparatus wherein the first aerial vehicle and the second aerial vehicle are space platforms. However, it was known at the time of the invention that space platforms require resupply and reload just as other vehicles do. Lounge et al. teach an underway

replenishment system for space vehicles in which payload is transferred from one space vehicle to another. It would have been obvious to one having ordinary skill in the art at the time of the invention to use the reloading system/apparatus of Minovitch wherein both aerial vehicles are space platforms, as taught by Lounge at al., for the predictable purpose of reloading payload (including ammunition) between two space vehicles.

17. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minovitch (U.S. Patent 5,103,712) in view of Abraham (U.S. Patent 3,008,674).

Minovitch does not expressly disclose the step of aborting the ordnance transfer comprising jettisoning of the arm or the ordnance or the ordnance carriage cradle or at least one part of the arm. However, Abraham teaches an in-flight transfer system for moving fuel between two aircraft in flight in which the refueling unit (10, which includes arm extension/hose 16) is readily detachable/jettisoned by the aircraft pilot should an emergency arise (column 2, line 45). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to further include the ability to jettison the arm, as taught by Abraham, in the invention of Minovitch, in order to predictably resolve or deal with an emergency.

18. Claims 6, 8-10, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inatomi (JP 01254494 A) in view of von Thal et al. (U.S. Patent 6,651,933).

Regarding Claim 6, Inatomi does not expressly disclose the computer elements of Claim 6. However, von Thal et al. teach an aircraft refueling boom system that uses a computer device (112), inherently having a memory device to hold software programs associated with the control of the movement of the extendible boom (i.e., software as in column 8, line 1, wherein coordinate data for movement is created from images), a communication device inherently transferring bi-directional control data, command data, and positional information between the first aerial vehicle and the extendible arm (i.e., the refueling control station 114, controlled by computer 112 as described above, is in communication with valves to control hydraulic flow to control surfaces 122 to inherently provide bi-directional control for extending, moving, and retracting the boom 14, Figure 5, and column 7, lines 19-33, communication data being provided between the computer 112 and the arm), thereby enabling control for an air-to-air transfer of fuel from the first aerial vehicle to the second aerial vehicle. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the computer and communication device of von Thal et al. for the purpose of accurately controlling the arm in the invention of Inatomi, in order to predictably locate and safely orient the transferring device prior to initiating the final moments of the transfer.

Regarding Claim 8, Inatomi does not expressly disclose the extendible arm assembly further comprising an image acquiring device to provide the arm position-specific images to the ordnance transfer control assembly. However, von Thal et al. teach the extendible arm assembly/refueling boom (14) further comprising an image acquiring device (i.e., camera 110) for the purpose of providing the arm position-specific images to the ordnance transfer control assembly (i.e., the cameras provide the computer 112 with visual targeting as described throughout the von Thal et al. specification). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include cameras, as taught by von Thal et al., in the invention of Inatomi, for the predictable purpose of providing accurate targeting sight ability and images for computer analysis for guiding the arm.

With regard to Claim 9, Inatomi does not expressly disclose the apparatus further comprising at least one lighting device. However, von Thal et al. teach the use of LEDs for lighting the targeting sights of the extendible boom to differentiate the targeting sights from other lights (i.e., the LEDs differentiate the targeting sights from other lights which cause reduced quality lighting conditions, column 4, lines 42-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include the LEDs of von Thal et al. in the invention of Inatomi for the predictable purpose of assisting the

operator or computer in visualizing the target sight under reduced quality lighting conditions (i.e., distracting light conditions).

Alternatively, with regard to Claim 9, and further with regard to Claim 10, Inatomi does not expressly disclose the apparatus further comprising at least one night-vision device or lighting device to provide enhanced quality mechanical arm position-specific images during day and nighttime ordnance transfer. However, von Thal et al. teach cameras that are capable of operation from visible light to infrared (IR) light, as well as lighting devices (i.e., infrared/IR floodlights, column 5, lines 23-30) for the purpose of day and night lighting conditions (i.e., the cameras detecting IR light function as night-vision devices, column 5, lines 23-31, and the IR floodlights described serve as lighting devices). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the IR-capable cameras and the accompanying IR floodlights, as taught by von Thal et al., in the invention of Inatomi, to achieve the predictable result of providing night-vision capability for use during nighttime transfers.

Regarding Claim 14, Inatomi does not teach the extendible arm being an extendible telescopic probe assembly comprising at least two telescopic tubes with the base attached to the first aerial vehicle and the innermost telescopic tube linked to an arm assembly. Von Thal et al. teach a telescopic probe assembly for an aircraft featuring at least two telescopic tubes (16,18) with the

base of the arm attached to the first aerial vehicle and the innermost telescopic tube linked to the second aircraft. It would have been obvious to one having ordinary skill in the art at the time of the invention to connect the telescopic boom of von Thal et al. to the arm of Inatomi for the predictable purpose of allowing additional length capabilities in minimal storage space and to use an old and well known type of robotic arm extension.

Regarding Claim 15, the arm assembly of Inatomi comprises at least two interlinked mechanized arm sections joined by motorized links (joints seen in the Figures) and providing movement of the mechanized arm sections in respect of each other.

19. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inatomi (JP 01254494 A) in view of Minovitch (U.S. Patent 5,103,712).

Inatomi teaches the apparatus of Claim 41 but does not expressly disclose the extendible arm further comprising a foldable aerodynamic control surface assembly. However, as explained above, Minovitch teaches an extendible arm assembly comprising a foldable aerodynamic control surface assembly to provide for aerodynamic lift and control to the extendible arm (i.e., wings 52 have movable aerodynamic control surfaces 54, inherently foldable to some degree based on the pivoting with respect to the wings 52, to provide for aerodynamic lift and control to the extendible arm, column 3, lines 12-19). Therefore it would have been obvious to one having ordinary skill in the art at the time of the

invention to provide the control surfaces of Minovitch to the invention of Inatomi to achieve the predictable result of enhanced stability and control during transit of the arm.

20. Claims 13, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inatomi (JP 01254494 A) in view of Roberge (U.S. Patent 3,167,278).

Inatomi teaches the apparatus of Claims 1 and 12 but does not expressly disclose the transfer assembly comprising the features in Claims 13, 16, or 17. Roberge, as discussed above, teaches an ordnance transfer assembly comprising:

- An ordnance carriage cradle for an in-transfer storage of the ordnance unit (i.e., the multi-rocket pod 68 carries a rocket or the ordnance unit 38 is carried by a cradle in assembly 14 as seen in Figure 8), the ordnance carriage cradle comprising:
- At least two ordnance gripping arms (i.e., the ordnance release mechanism 36 in Figure 8 has two arms seen holding the ordnance unit 38)
- A pylon adapter unit to carry the at least one ordnance unit during an air-to-air ordnance transfer to the weapon station (44) on the second vehicle (i.e., the carrier tube 28 connects to the pylon and is part of the ordnance assembly 14), the pylon adapter unit comprising
    - A mechanical connector to the pylon (i.e., the carrier tube 28 receives the pylon 44 via drag cone 31)

- At least one stabilizing surface to be used for stabilizing the pylon adapter to the pylon (i.e., drag cone 31)

- A multi-fuzing unit to enable fuzing of the at least one transferred ordnance unit (i.e., electrical cable 50 provides control of the release mechanism 36, the connection/fuzing occurring during connection between probe and ordnance assembly, acting as a fuzing of the ordnance unit, column 2, line 56 to column 3, line 6)

Roberge teaches these elements for the purpose of a modular and efficient transfer and loading onto the aircraft pylon (using the sleeve and shaft as a quick reloading technique). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the cradle of Roberge in the invention of Inatomi for the predictable purpose of providing an old and well known transfer apparatus that provides for rapid loading. The cone design of Roberge allows the loading process to be less precise, as it guides the assembly onto the pylon.

21. Claims 22-26, 37, 38, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inatomi (JP 01254494 A).

Regarding Claims 22-26, Inatomi does not expressly disclose the first airborne aerial vehicle being a manned cargo aircraft, a Lockheed Martin C-130 Hercules, an unmanned or uninhabited aircraft, or that the second airborne aerial vehicle is manned, unmanned, or uninhabited. However, the examiner takes Official Notice that remote vehicles, the Hercules, and cargo aircraft were old, well-

known, commonly used aircraft; therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use any combination of these vehicles in the Inatomi invention.

Regarding Claim 37, Inatomi does not expressly disclose transferring the ordnance unit in a fuzed state. However, given the limited possibilities of transferring the ordnance unit (fuzed or unfuzed), it would have been obvious to one having ordinary skill in the art at the time of the invention to try transferring the ordnance unit in a fuzed state with at least one arming cable (i.e., internal electronics of the missile). By holding the ordnance unit, the first end of the extendible arm is deemed to be connected/attached to a fuzing device. Transferring the ordnance in a fuzed state offers the benefit of being able to load the missile with the confidence that the missile has functional fuzing devices.

Regarding Claim 38, Inatomi teaches attaching the second end of the arm to the pylon but does not expressly disclose extracting at least one previously used arming cable from the pylon. However, due to the repeated mission nature of Inatomi, it would have been obvious to one having ordinary skill in the art at the time of the invention to extract a used arming cable from the pylon before attaching a new ordnance unit in order to predictably keep the pylon area clean and to free up the connection area for future units.

Regarding Claim 40, Inatomi does not expressly disclose jettisoning at least one part or the entire arm. However, the examiner takes Official Notice that in an emergency situation, only two options exist: keep the arm or jettison the arm. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to jettison the arm for predictably achieving a quick emergency maneuver and to release the explosive missile (5) from the carrier aircraft in case of such an emergency.

22. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inatomi (JP 01254494 A) in view of Lounge et al. (U.S. Patent Application Publication 2002/0079407).

Inatomi does not expressly disclose using the reloading system/apparatus wherein the first aerial vehicle and the second aerial vehicle are space platforms. However, it was old and well known at the time of the invention that space platforms require resupply and reload just as other vehicles do. Lounge et al. teach an underway replenishment system for space vehicles in which payload is transferred from one space vehicle to another. It would have been obvious to one having ordinary skill in the art at the time of the invention to use the reloading system/apparatus of Inatomi wherein both aerial vehicles are space platforms, as taught by Lounge at al., for the predictable purpose of reloading payload (including ammunition) between two space vehicles.

Response to Arguments

23. Applicant's arguments filed 5 December 2008 have been fully considered but they are not persuasive.

Arguments regarding Minovitch (U.S. Patent 5,103,712)

- Regarding the applicant's arguments for Claim 1 that Minovitch does not teach a rigid surface, this limitation is met by Minovitch as explained in the rejection of Claim 1 above.
- Regarding the applicant's arguments for Claim 1 that Minovitch "does not disclose such ordnance transfer assembly" and that "the ordnance transfer assembly is not the conveyor, and is positioned on the conveyor," the examiner asserts that the rejection of Claim 1 still stands above, as the ordnance transfer assembly is in fact, the conveyor, or any part of the conveyor, or anything associated with the transfer of the ordnance as rejected above.
- Regarding the applicant's arguments for Claim 3 that the storage magazine resides solely at the transferring aircraft vehicle and is not used during transfer, this argument is not persuasive, as the time period constituting "during transfer" is capable of being considered the time between takeoff of the supply aircraft and reception by the second aircraft, as the transfer is taking place from beginning to end during this time. Further, the storage cradle is part of the assembly and dispenses ordnance to the conveyor and is therefore used during transfer.
- Regarding the applicant's argument that Minovitch does not teach the ordnance unit being transferred externally to the extendible arm, this limitation is rejected

above in the rejection to Claim 28, as the language of Claim 28 allows for the ordnance unit to be transferred from an external location to the extendible arm (i.e. during loading of the first aircraft), therefore being deemed "transferred externally."

- Regarding the applicant's arguments about Claim 28 that Minovitch does not teach a storage cradle, there is no mention of a storage cradle in Claim 28.
- Regarding the applicant's arguments about Claim 28 that Minovitch does not teach the limitations referenced in the applicant's arguments, page 16, lines 10-16, these limitations are addressed in the rejection of Claim 28 above.

Arguments regarding Roberge (U.S. Patent 3,167,278):

- Regarding the applicant's argument that the Office action did not provide any reference to the extendible arm disclosed in claim 41, this is addressed above in the rejection of Claim 41. Additionally with regard to the Office action, the "ordnance transfer assembly" of Claim 1 as taught by Roberge includes more elements than the cable 16, and therefore the cable *is* the extendible arm assembly, being part of the overall assembly.
- Regarding the applicant's argument that Roberge does not teach the ordnance unit being transferred on a rigid surface, this is addressed in the rejection of Claim 1 above.
- Regarding the applicant's argument that Roberge does not teach the storage cradle claimed in Claim 3, this is addressed above in the rejection of Claim 3.

Further, the applicant's attempt to define the storage cradle by reference to figures in the instant application is ineffective, as the claim language of Claim 3 lends itself to the rejection above.

- Regarding the applicant's argument that the Office action did not provide reference to the extendible arm or carriage cradle, this was provided in the Office action dated 2 September 2008 on page 17, wherein the arm is the cable 16 or the boom 22 and the cradle is carrier tube 28.
- Regarding the applicant's arguments that Roberge does not teach both the extendible arm and the cradle, the examiner notes that the extendible arm is the cable 16 and the cradle is one of items 14 or 68, shown in Figures 8 and 11. Further, the applicant's attempt to define the cradle by reference to figures in the instant application is ineffective, as the claim language of Claim 28 lends itself to the rejection above.

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Beyerle et al. (U.S. Patent Application Publication 2005/0145752 and U.S. Patent 6,932,299) teach aerial rearmament.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Brookman whose telephone number is (571) 270-5513. The examiner can normally be reached on Monday through Thursday 10:00 AM EST to 4:00 PM EST, away alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on (571) 272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Summary

26. The examiner acknowledges amendments to the drawings, specification, and claims filed 5 December 2008. Claims 1-10, 12-17, 22-33, and 37-41 are rejected above.

/S. B./
Examiner, Art Unit 3644

/Rob Swiatek/
Primary Examiner, Art Unit 3643
27 February 2009